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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,511	03/02/2004	Jong-Hoon Shin	8021-203 (SS-19469-US)	2746

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F. CHAU & ASSOCIATES, LLC
130 WOODBURY ROAD
WOODBURY, NY 11797

EXAMINER	
SUN, SCOTT C	

ART UNIT	PAPER NUMBER
2182	

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/791,511	SHIN ET AL.	
	Examiner	Art Unit	
	Scott Sun	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/2/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim(s) 1, 7, 13-15, 18 includes claim language, "capable of", that merely suggests or makes optional but does not require steps to be performed, or does not limit a claim to a particular structure. Therefore, it is uncertain as to the limiting effect of the language, rendering the claim scope unascertainable.

4. Claims 2-6, 8-12, 16, 17 are rejected because of their dependency on one or more of the above rejected claims.

5. The following rejections are made based on the examiner's best interpretation of the claims in light of the 35 USC 112 rejections above.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (APA) in view of Bilak et al (PG Pub #2003/0177293).

8. Regarding claim 1, APA discloses a transceiving network controller (system in figure 1) comprising:

a system bus (system bus);

a buffer memory (transmitting memory 110, receiving memory 130) including a transmitting area (transmitting memory 110) and a receiving area (receiving memory 130), the buffer memory for storing and outputting transmitted data in response to at least one transmitting address signal (signals "TWDT", TRDT", "TWAD"... etc) and for storing and outputting received data in response to at least one receiving addressing signal (signals "RREN", RWEN", "RRAD"... etc; background, page 2, lines 1-11).

a transmitting controller (transmitting controller 120) for generating a plurality of transmitting address signals (signals "TWDT", TRDT", "TWAD"... etc), for outputting at least one transmitting write address signal (signals "TWDT", "TWAD", TWEN") of the plurality of transmitting address signals with data (SYSTD) received from the system bus (page 2, lines 6-7), and for outputting transmitted data output from the buffer memory to a lower layer (physical layer; page 2, lines 7-8), the transmitted data being output from the buffer memory in response to at least one transmitting read address signal (signals "TRDT", "TRAD", "TREN") of the plurality of transmitting address signals (page 2, lines 6-8, also shown in figure 1).

a receiving controller for generating a plurality of receiving address signals (signals "RREN", RWEN", "RRAD"... etc), for outputting at least one receiving write

address signal (signals "RRDT", "RRAD", RREN") of the plurality of receiving address signals with data (PHYRD) received from the lower layer (physical layer, page 2, lines 8-10), and for outputting received data output from the buffer memory to the system bus (page 2, lines 10-11), the received data being output from the buffer memory in response to at least one receiving read address signal (signals "RWDT", "RWAD", "RWEN") of the plurality of receiving address signals (page 2, lines 8-11, also shown in figure 1).

APA does not disclose explicitly a flow control unit. However, Bilak discloses a flow control unit (processing thread 120, figure 2; paragraph 28, 35) for generating and outputting threshold control signals (R-RDY signals) for increasing the memory allocation of the transmitting area (outbound buffer) when a transmission execution signal (data frame ready for transmission 630) becomes active (paragraph 39), and for increasing the memory allocation of the receiving area (inbound buffer) when a reception execution signal (arrival of data frame 330) becomes active (paragraph 37), and a maximum transmitting address (maximum capacity of the outbound buffer) and a maximum receiving address (maximum capacity of the inbound buffer) capable of being changed by the threshold control signals (paragraph 35). Examiner notes that Bilak teaches that the inbound and outbound buffer areas can each "borrow" space from each other when overloaded (paragraph 33). Furthermore, teachings of APA and Bilak are from the same field of data buffering and flow controlling.

Therefore, it would have been obvious at the time of invention for a person of ordinary skill in the art to combine teachings of Bilak and APA by using the buffer space

"borrowing" logic disclosed by Bilak in the system disclosed by APA for the benefit of efficient use of buffer space (paragraph 26, 33, Bilak).

9. Regarding claim 2, APA and Bilak combined disclose claim 1, and Bilak further discloses wherein the flow control unit generates a threshold control signal ("no" result returned from test 350 or test 660) for maintaining the memory allocation (space is not borrowed) of the transmitting area and the receiving area when the transmission executions signal and the reception execution signal becomes active simultaneously (when neither buffer areas have more space, or equivalently, when both buffer areas are being fully utilized).

10. Regarding claim 3, APA and Bilak combined disclose claim 1, and Bilak further discloses wherein the flow control units generates a threshold control signal (de-allocation signal) for equalizing the memory allocation of the transmitting area and the receiving area (paragraph 34, 38). Examiner notes that both buffer areas initially have 64 blocks (paragraph 34); blocks "borrowed" by another buffer are returned to the original buffer after use, and therefore equalizing the memory allocation of the two buffer areas.

11. Regarding claim 4, APA and Bilak combined disclose claim 1, and Bilak further discloses wherein the flow control units generates a threshold control signal for maintaining the memory allocation of the transmitting area and the receiving area at a predetermined threshold in accordance with a predetermined setting (paragraph 34, 38). Similar to claim 3, examiner notes that spaces "borrowed" by another buffer are

returned to the original buffer after use, and therefore maintaining the memory allocation of the two buffer areas to the original setting.

12. Regarding claim 5 and 6, APA and Bilak combined disclose claim 1, and APA further discloses that the transmitted and received data area transmitted using a half or full duplex method (page 2, lines 11-12).

13. Regarding claims 7-18, examiner notes that limitations of these claims are substantially similar to those in claims 1-6 above, and therefore the same grounds of rejection are applied. Regarding claim 9, examiner notes that Bilak discloses that both buffers are initially empty (shown in figures 3 and 5) and equal in size (paragraph 34) therefore equalized when power is turned on.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Sun whose telephone number is (571) 272-2675. The examiner can normally be reached on M-F, 10:30am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

KIM HUYNH
SUPERVISORY PATENT EXAMINER

11/20/06